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see page 6

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RAW SEQUENCE LISTING DATE: 06/14/2002
PATENT APPLICATION: US/10/038,722 TIME: 08:43:15

Input Set : A:\LEY1B.txt
Output Set: N:\CRF3\06142002\J038722.raw

<110> APPLICANT: LEY, Arthur C.
GUTERMAN, Sonia K.
MARKLAND, William
KENT, Rachel B.
ROBERTS, Bruce L.
LADNER, Robert C.
<120> TITLE OF INVENTION: ITI-D1 KUNITZ DOMAIN MUTANTS AS nHE INHIBITORS
<130> FILE REFERENCE: LEY=1B
<140> CURRENT APPLICATION NUMBER: 10/038,722
<141> CURRENT FILING DATE: 2002-01-08
<150> PRIOR APPLICATION NUMBER: US 08/849,406
<151> PRIOR FILING DATE: 1999-07-21
<150> PRIOR APPLICATION NUMBER: PCT/US95/16349
<151> PRIOR FILING DATE: 1995-12-15
<150> PRIOR APPLICATION NUMBER: US 08/358,160
<151> PRIOR FILING DATE: 1994-12-16
<160> NUMBER OF SEQ ID NOS: 129
<170> SOFTWARE: PatentIn version 3.1
<210> SEQ ID NO: 1
<211> LENGTH: 276
<212> TYPE: DNA
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: IIIsp::bpti::mautreIII (initial fragment)
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gtgaaaaaat tattattcgc aattccttta gttgttcctt tctattctgg cgcccgtccg 60
gatttctgtc tcgagccacc atacactggg ccctgcaaag cgcgcatcat ccgctatttc 120
tacaatgcta aagcaggcct gtgccagacc tttgtatacg gtggttgccg tgctaagcgt 180
aacaacttta aatcggccga agattgcatg cgtacctgcg gtggcgccgc tgaaactgtt 240
gaaagttgtt tagcaaaacc ccatacagaa aattca 276
<210> SEQ ID NO: 2
<211> LENGTH: 92
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: IIIsp::bpti::mautreIII (initial fragment)
<400> SEQUENCE: 2
Met Lys Lys Leu Leu Phe Ala Ile Pro Leu Val Val Pro Phe Tyr Ser
1 5 10 15
Gly Ala Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys
20 25 30
Lys Ala Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys
35 40 45

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Input Set : A:\LEY1B.txt
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72 Gln Thr Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys
73 50 55 60
76 Ser Ala Glu Asp Cys Met Arg Thr Cys Gly Gly Ala Ala Glu Thr Val
77 65 70 75 80
80 Glu Ser Cys Leu Ala Lys Pro His Thr Glu Asn Ser
81 85 90
84 <210> SEQ ID NO: 3
85 <211> LENGTH: 285
86 <212> TYPE: DNA
87 <213> ORGANISM: Artificial Sequence
89 <220> FEATURE:
90 <223> OTHER INFORMATION: IIIsp::itiD1::mature III fusion gene
92 <400> SEQUENCE: 3
93 gtgaaaaaat tattattcgc aattccttta gttgttcctt tctattctgg cgccaaagaa 60
95 gactcttgcc agctgggcta ctcggccggt ccctgcatgg gaatgaccag caggtatttc 120
97 tataatggta catccatggc ctgtgagact ttccagtacg gcggctgcat gggcaacggt 180
99 aacaacttcg tcacagaaaa ggagtgtctg cagacctgcc gaactgtggg cgccgctgaa 240
101 actgttgaaa gttgtttagc aaaaccccat acagaaaatt cattt 285
104 <210> SEQ ID NO: 4
105 <211> LENGTH: 95
106 <212> TYPE: PRT
107 <213> ORGANISM: Artificial Sequence
109 <220> FEATURE:
110 <223> OTHER INFORMATION: IIIsp::itiD1::mature III fusion gene
112 <400> SEQUENCE: 4
114 Met Lys Lys Leu Leu Phe Ala Ile Pro Leu Val Val Pro Phe Tyr Ser
115 1 5 10 15
118 Gly Ala Lys Glu Asp Ser Cys Gln Leu Gly Tyr Ser Ala Gly Pro Cys
119 20 25 30
122 Met Gly Met Thr Ser Arg Tyr Phe Tyr Asn Gly Thr Ser Met Ala Cys
123 35 40 45
126 Glu Thr Phe Gln Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Val
127 50 55 60
130 Thr Glu Lys Glu Cys Leu Gln Thr Cys Arg Thr Val Gly Ala Ala Glu
131 65 70 75 80
134 Thr Val Glu Ser Cys Leu Ala Lys Pro His Thr Glu Asn Ser Phe
135 85 90 95
138 <210> SEQ ID NO: 5
139 <211> LENGTH: 58
140 <212> TYPE: PRT
141 <213> ORGANISM: Artificial Sequence
143 <220> FEATURE:
144 <223> OTHER INFORMATION: Consensus Kunitz domain
146 <400> SEQUENCE: 5
148 Arg Pro Asp Phe Cys Leu Leu Pro Ala Glu Thr Gly Pro Cys Arg Ala
149 1 5 10 15
152 Met Ile Pro Arg Phe Tyr Tyr Asn Ala Lys Ser Gly Lys Cys Glu Pro
153 20 25 30
156 Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Lys Thr Glu

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PATENT APPLICATION: US/10/038,722 TIME: 08:43:15

Input Set : A:\LEY1B.txt
Output Set: N:\CRF3\06142002\J038722.raw

```
157         35                  40                  45
160 Glu Glu Cys Arg Arg Thr Cys Gly Gly Ala
161     50                  55
164 <210> SEQ ID NO: 6
165 <211> LENGTH: 58
166 <212> TYPE: PRT
167 <213> ORGANISM: Bos Taurus
169 <400> SEQUENCE: 6
171 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala
172 1               5                   10                  15
175 Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
176             20                  25                  30
179 Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala
180         35                  40                  45
183 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
184     50                  55
187 <210> SEQ ID NO: 7
188 <211> LENGTH: 58
189 <212> TYPE: PRT
190 <213> ORGANISM: Artificial Sequence
192 <220> FEATURE:
193 <223> OTHER INFORMATION: Epi-HNE-1
195 <400> SEQUENCE: 7
197 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Ile Ala
198 1               5                   10                  15
201 Phe Phe Pro Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
202             20                  25                  30
205 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
206         35                  40                  45
209 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
210     50                  55
213 <210> SEQ ID NO: 8
214 <211> LENGTH: 62
215 <212> TYPE: PRT
216 <213> ORGANISM: Artificial Sequence
218 <220> FEATURE:
219 <223> OTHER INFORMATION: Epi-HNE-2
221 <400> SEQUENCE: 8
223 Glu Ala Glu Ala Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly
224 1               5                   10                  15
227 Pro Cys Ile Ala Phe Phe Pro Arg Tyr Phe Tyr Asn Ala Lys Ala Gly
228             20                  25                  30
231 Leu Cys Gln Thr Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn
232         35                  40                  45
235 Phe Lys Ser Ala Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
236     50                  55                  60
239 <210> SEQ ID NO: 9
240 <211> LENGTH: 58
241 <212> TYPE: PRT
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RAW SEQUENCE LISTING DATE: 06/14/2002
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Input Set : A:\LEY1B.txt
Output Set: N:\CRF3\06142002\J038722.raw

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242 <213> ORGANISM: Artificial Sequence
244 <220> FEATURE:
245 <223> OTHER INFORMATION: EpiNE7
247 <400> SEQUENCE: 9
249 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Val Ala
250 1               5                  10                  15
253 Met Phe Pro Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
254             20                  25                  30
257 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
258         35                  40                  45
261 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
262     50                  55
265 <210> SEQ ID NO: 10
266 <211> LENGTH: 58
267 <212> TYPE: PRT
268 <213> ORGANISM: Artificial Sequence
270 <220> FEATURE:
271 <223> OTHER INFORMATION: EpiNE3
273 <400> SEQUENCE: 10
275 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Val Gly
276 1               5                  10                  15
279 Phe Phe Ser Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
280             20                  25                  30
283 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
284         35                  40                  45
287 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
288     50                  55
291 <210> SEQ ID NO: 11
292 <211> LENGTH: 58
293 <212> TYPE: PRT
294 <213> ORGANISM: Artificial Sequence
296 <220> FEATURE:
297 <223> OTHER INFORMATION: EpiNE6
299 <400> SEQUENCE: 11
301 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Val Gly
302 1               5                  10                  15
305 Phe Phe Gln Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
306             20                  25                  30
309 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
310         35                  40                  45
313 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
314     50                  55
317 <210> SEQ ID NO: 12
318 <211> LENGTH: 58
319 <212> TYPE: PRT
320 <213> ORGANISM: Artificial Sequence
322 <220> FEATURE:
323 <223> OTHER INFORMATION: EpiNE4
325 <400> SEQUENCE: 12
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RAW SEQUENCE LISTING DATE: 06/14/2002
PATENT APPLICATION: US/10/038,722 TIME: 08:43:15

Input Set : A:\LEY1B.txt
Output Set: N:\CRF3\06142002\J038722.raw

```
327 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Val Ala
328 1               5                   10                  15
331 Ile Phe Pro Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
332             20                  25                  30
335 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
336         35                  40                  45
339 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
340     50                  55
343 <210> SEQ ID NO: 13
344 <211> LENGTH: 58
345 <212> TYPE: PRT
346 <213> ORGANISM: Artificial Sequence
348 <220> FEATURE:
349 <223> OTHER INFORMATION: EpiNE8
351 <400> SEQUENCE: 13
353 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Val Ala
354 1               5                   10                  15
357 Phe Phe Lys Arg Ser Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
358             20                  25                  30
361 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
362         35                  40                  45
365 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
366     50                  55
369 <210> SEQ ID NO: 14
370 <211> LENGTH: 58
371 <212> TYPE: PRT
372 <213> ORGANISM: Artificial Sequence
374 <220> FEATURE:
375 <223> OTHER INFORMATION: EpiNE5
377 <400> SEQUENCE: 14
379 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Ile Ala
380 1               5                   10                  15
383 Phe Phe Gln Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
384             20                  25                  30
387 Phe Val Tyr Gly Gly Cys Met Gly Asn Gly Asn Asn Phe Lys Ser Ala
388         35                  40                  45
391 Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
392     50                  55
395 <210> SEQ ID NO: 15
396 <211> LENGTH: 58
397 <212> TYPE: PRT
398 <213> ORGANISM: Artificial Sequence
400 <220> FEATURE:
401 <223> OTHER INFORMATION: EpiNE2
403 <400> SEQUENCE: 15
405 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Ile Ala
406 1               5                   10                  15
409 Leu Phe Lys Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
410             20                  25                  30
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/14/2002
PATENT APPLICATION: US/10/038,722 TIME: 08:43:16

Input Set : A:\LEY1B.txt
Output Set: N:\CRF3\06142002\J038722.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:82; N Pos. 37,47,58,65
Seq#:83; Xaa Pos. 13,14,16,18,19,20,22,24,34,35,37,42,43,45
Seq#:84; N Pos. 34,44,55,62,101
Seq#:85; Xaa Pos. 12,13,15,17,18,19,21,23,33,34,36,41,42,44
Seq#:86; Xaa Pos. 2,3,4,5,6,7,9,11,12,13,14,15,16,17,18,19,20,21,22,23,24
Seq#:86; Xaa Pos. 25,27,28,30,31,32,35,36,37,38,39,40,42,43,44,45,46,48,49
Seq#:86; Xaa Pos. 50
Seq#:127; N Pos. 4,5,6,7,8
Seq#:128; N Pos. 4,5,6,7,8,9,10,11,12

VERIFICATION SUMMARY DATE: 06/14/2002
PATENT APPLICATION: **US/10/038,722** TIME: 08:43:16

Input Set : **A:\LEY1B.txt**
Output Set: **N:\CRF3\06142002\J038722.raw**

L:3014 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:0
L:3016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:60
L:3117 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:0
L:3121 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:16
L:3125 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:32
L:3172 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:0
L:3174 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:60
L:3276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85 after pos.:0
L:3280 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85 after pos.:16
L:3284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85 after pos.:32
L:3396 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:0
L:3400 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:16
L:3404 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:32
L:3408 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:48
L:4390 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:127 after pos.:0
L:4408 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:128 after pos.:0